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NEW SOVIET MEASURING INSTRUMENTS AND TOOLS

AUTOMATIC MEASURING DEVICE -- Moscow, Vechernyaya Moskva, 29 Jun 53

In machine building, a finished part must frequently be accurate to within .001 millimeter. Workers of the Technical Control Division have had to make numerous meticulous measurements for height, cross section, diameter, etc. The Leningrad Tool Plant has now manufactured an instrument which performs all these operations automatically. A worker places a finished part in the instrument, presses a lever, and the automatic mechanism accurately records the results of the measurement being made.

NEW INSPECTING AUTOMATICS AND INSTRUMENTS -- Moscow, Moskovskaya Pravda, 25 Jul 53

The Moscow Kalibr Plant has perfected more than 20 types of new products in 1953.

Of special interest is an automatic for sorting balls from 3 to 6 millimeters in diameter. Until now, existing sorting units at enterprises of the bearing industry assured reliable size inspection of only two sizes of balls. The new aggregate makes it possible to sort balls into five groups with an accuracy of up to one micron.

The Kalibr Plant has also developed instruments for inspecting the hardness of moldboards for tractor plows and a unit for checking the frames of electric motors.

Minsk, Sovetskaya Belorussiya, 5 Jul 53

Dial indicators are being produced by the Moscow Kalibr Plant. They will be mounted on instruments for checking the hardness of metals.

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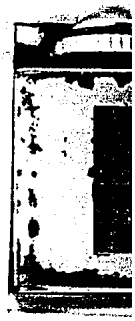

These indicators with the Kalibr trademark are considerably better than similar indicators made by foreign firms.

NEW GEAR-HOBBING MACHINE FOR WATCHES AND PRECISION INSTRUMENTS -- Yerevan, Kommunist, 25 Jul 53

The Leningrad Dividing Head Plant has mastered the production of a new type of product, gear-hobbing semiautomatics. They are intended for manufacturing minute gears for watches and precision instruments.

The new machine tools are more productive than those of an earlier model and the cost of manufacturing them has been decreased by 27 percent.

MECHANIZE LAPPING OF KOLESOV-DESIGNED CUTTING TOOLS -- Moscow, Trud, 8 Jul 53

An attachment for mechanical lapping of cutting tools designed by Kolesov has been introduced into production at a number of Leningrad plants. This attachment will replace hand lapping which does not impart the necessary quality and accuracy to cutting tools.

USE POWER CUTTING TO INCREASE LABOR PRODUCTIVITY -- Tallin, Sovetskaya Estoniya, 16 Jul 53

Kirin, a lathe operator at the Tallin Repair Plant of the Ministry of Agriculture and Procurement Estonian SSR, now uses the method of power cutting to face adjusting rings made of steel ST15. His cutting speed is 210 meters per minute; depth of cut, 3-4 millimeters, and tool feed, 1.59 millimeters, which is the maximum permissible feed on the Model 1A62. Formerly, he used a feed of 0.3-0.4 millimeters. Therefore, by using the power method of cutting, he nearly quadrupled his labor productivity.

SELF-SHARPENING CUTTING TOOL -- Leningradskaya Pravda, 12 Jul 53

A new cutting tool has been designed by Vladimir Ya. Karasev at the Leningrad Kirov Plant. This tool combines the best properties of the cutting tools designed by Bortkevich, Sevin, Bykov, and Kolesov.

In machining a bronze part, Karasev can cut at a rate of 2,150 meters with a feed of 2 millimeters. The new cutting tool can be used for 4 months without being removed from the machine. During this time, only 3 millimeters of hard alloy wears off the blade. The tool is continuously sharpened by the chip which is being cut off.

Recently, Karasev developed a chip breaker of new design which will make it possible to introduce even more extensively high-speed and power methods of machining parts.

Petrozavodsk, Leninskoye Znamya, 18 Jul 53

The new cutting tool developed by V. Karasev for machining parts made of light alloys has reversible (peremennyy) angles. The new tool can cut a part to a high tolerance in only one pass.

Tests showed the long life of the cutting tool. In machining aluminum at a cutting speed of 1,700 meters per minute, a feed of 2 millimeters, and a depth of cut of 5-7 millimeters, for 300-400 hours, the cutting tool did not require sharpening.

COMPLETE WORK ON NEW TYPE END-MILL -- Leningradskaya Pravda, 15 Aug 53

The laboratory of cutting at the [Leningrad] Kirov Plant has completed lengthy research on, and testing of, end mills with helical blades tipped with hard alloy and monolithic bits. The toolmakers have manufactured the first group of the new mills. Compared with the old type made of high-speed steel, the new mills cut metal five times as fast and are making it possible to increase productivity 2.5 times.

NEW FIXTURES FOR CONTINUOUS HIGH-SPEED MILLING -- Moscow, Vechernyaya Moskva, 23 Jul 53

As a rule, cast-iron levers are machined on vertical milling machines. A fixture which holds 10-12 parts is mounted on the machine-tool table. After these parts are machined, the machine tool is stopped, and the finished parts are replaced with new blanks. By this method, the machine tool is not used productively more than 50 percent of the time.

Striving to speed up the machining of cast-iron levers which are used in large quantities in Model 1A62, B. Zver'kov, V. Denisov, and A. Yegorov, engineers at the Moscow Krasnyy Proletariy Plant imeni A.I. Yefremov, designed a portable table which is adapted for continuous high-speed milling. Movement is transmitted to the table by a separate motor which is not connected with the mechanisms of the machine tool. The new device holds 24 parts at one time, and the finished parts can be removed without stopping the machine tool. The table makes a complete revolution in 6.4 minutes.

A. Odinokova, a technologist at the plant, has suggested a new method of milling surfaces. Previously, a part was machined on an arbor clamped in a chuck. To change the part, it was necessary to stop the machine tool, turn a nut, remove the part from the arbor, and install a new blank. According to the new method, several arbors are mounted in the centers of the dividing head. Sixteen, or even 32 parts can be machined simultaneously. The machining of parts in a two-spindle dividing head increases labor productivity 80 percent.

It has been decided that all milling machines on which parts are machined in large batches at the plant will be equipped with the new high-production fixtures.

SALVAGE HARD-ALLOY DUST; DEVELOP NEW GRADE OF ZIRCONIUM STEEL -- Moscow, Vechernyaya Moskva, 1 Jul 53

The output of cutting tools with hard-alloy blades at the Moscow Krasnyy Proletariy Plant has increased 80 percent as compared with the 1948 output.

In grinding hard-alloy tools it was established at the plant's metals laboratory that the emery dust which accumulates in the emery wheel contains 12.8 percent expensive hard alloy. M. Shilov, engineer, designed a special unit for extracting the hard-alloy dust, which will save the plant 15,560 rubles per year.

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In cooperation with associates of the Institute of Ferrous Metallurgy, personnel at the metals laboratory have developed a new grade of zirconium steel. This metal will be used extensively at the plant in the manufacture of lead shafts and other machine-tool parts.

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